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CONFERENCE ON METHODS OF INCREASING STUDENT ACHIEVEMENT IN TECHNICAL PREPARATORY PROGRAMS.

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A 3-DAY CONFERENCE WAS HELD TO DEFINE AND FIND SOLUTIONS TO THE PROBLEM OF TECHNICAL SCHOOLS RELATIVE TO STUDENTS WHO LACK THE NECESSARY REQUISITES TO ENTER AND SUCCESSFULLY COMPLETE A TECHNICAL EDUCATION PROGRAM OF STUDY. REPRESENTATIVES FROM TECHNICAL SCHOOLS AND SECONDARY SCHOOL GUIDANCE COUNSELORS FROM THE NORTHEASTERN UNITED STATES WERE INVITED TO PARTICIPATE. THE FIRST STEP WAS TO IDENTIFY THE KINDS OF STUDENTS WHO NEED A PREPARATORY TECHNICAL PROGRAM. THIS WAS FOLLOWED BY SYSTEMATIC DISCUSSIONS OF AREAS WHICH NEEDED ATTENTION TO OVERCOME THESE STUDENTS' LACK OF ACADEMIC PREPARATION. SOME OF THOSE AREAS WERE (1) STUDY SKILLS, (2) COMMUNICATION SKILLS, (3) MATHEMATICS, (4) PHYSICS, (5) CHEMISTRY, (6) BIOLOGY, AND (7) COUNSELING. THE PROCEDURE FOLLOWED ALLOWED AMPLE OPPORTUNITY FOR EACH OF THE CONFERENCE DELEGATES TO FREELY ENTER INTO THE DISCUSSION. BOTH PHILOSOPHICAL AND REALISTIC APPROACHES TO THE OVERALL PROBLEM WERE STUDIED IN DEPTH. THE RESULTS OF THE CONFERENCE APPEARED TO CREATE ENTHUSIASM AND DETERMINATION AMONG THE DELEGATES TO FURTHER STUDY THE PROBLEM AND CONSIDER THE ESTABLISHMENT OF PREPARATORY PROGRAMS IN THEIR REPRESENTED INSTITUTIONS. (JH)

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(Voc. Ed)

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CONFERENCE

ON

METHODS OF INCREASING STUDENT ACHIEVEMENT IN TECHNICAL PREPARATORY PROGRAMS

by

MILO E. VAN HALL

Office of Education Grant Number OEG 1-6-068303-0721
The Vocational Education Act of 1963
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State University of New York
Agricultural and Technical College
Alfred, New York 14802

JULY 30, 1966

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Office of Education
Bureau of Research
Division of Adult and Vocational Research

SUMMARY OF PROJECT

A. Grant Number — OEG--6-068303-0721

B. Title — Methods of Increasing Student Achievement in Technical Preparatory Programs - Conference

C. Investigator — Milo E. Van Hall

D. Institution — State University of New York
Agricultural and Technical College
Alfred, New York 14802

E. Duration — 6/1/66 through 7/30/66
Conference Dates: July 12, 13, 14, 1966

F. Purpose

The objectives of the conference were to define and find solutions to the problem facing technical schools in the Northeast relative to students who lack the necessary requisites in order to enter and compete successfully in a technical education program of study. This problem faces not only the technical school but also is of great interest to the secondary school. Because of this fact, high school guidance counselors were also invited to participate in the discussions. Attendance at the conference was below estimated figures as the airlines strike prohibited many from attending who had previously made plans.

The kinds of students needing a preparatory program were identified and then followed a systematic discussion of areas which need attention if a student is to overcome a lack of academic preparation. These areas included: Study Skills, Communication Skills, Mathematics, Physics, Chemistry, Biology and Counseling.

G. Procedure

The procedure followed was that an expert who had had experience in each of the areas would present a paper. Then the delegates would break up in three groups and, under a leader, would discuss the problems. Then, an hour later, the three groups would reconvene for one-half hour and general questions would be asked of the presentor or the Chief Resource Person.

One hour of the conference time was devoted to a panel discussion of the Administrative Problems which might be encountered by

schools setting up such a program.

The procedure followed allowed ample opportunity for each of the delegates to freely enter into the discussion.

It was clearly pointed out that the conference was not a "Look and See" project, but rather one in which philosophical, as well as realistic, approaches were dealt with in depth.

H. Results and Conclusions

Results of the conference proved that the objectives had been met. Technical educators representing a wide variety of different institutions became aware that a solution of the problem could be achieved. Repeatedly, it was pointed out that a complete committment by the school had to be made before a preparatory program could be successful. The conference also emphasized to the secondary school counselors the problems facing their graduates as they make application for a post secondary technical program.

Delegates left the conference enthusiastic and determined to study the problem and study the possibility of establishing a preparatory program in their own institution.

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PRECEDING PAGE MISSING

The problem on which the project was focused related to that concerned with in a suggested guide for post high school programs, "Introductory Requisite Courses for Technical Education Curriculums". This guide will discuss in detail the problems and suggest a possible course of study. It deals with those high school graduates who lack the necessary high school courses or academic achievement necessary to enter a post secondary, technical program of study.

The conference took a step by step method in explaining how a typical program might operate. The preparatory program used by the host institution was illustrated by a pattern which it had evolved for the past twenty years.

Introduction: On Tuesday evening, June 12, a paper was presented delineating the kinds of students who would be considered for study in a preparatory program. They include (a) students who did not study the necessary courses in high school; (b) students with special science related interests who neglected to master organized studies such as language, mathematics, or science; (c) students who have left high school to work or serve in the armed services. It was also emphasized that the responsibility for providing a preparatory program was that of the post secondary institution.

Study Skills: Throughout the conference, as different areas of study were discussed, it became evident that in a successful program, study skills became an integral part of each course. However, it was suggested that all students, regardless of their background or deficiencies, should take a course in study skills. Areas covered in such a course include use of a textbook, how to use the library, how to study for tests, how to take notes and many others. It was also concluded that it was difficult to separate study skills and reading improvement, though this was being done at the host school.

Communication Skills: This presentation was concerned with the inadequacies of students in the language arts and suggested ways which might effect improvement. The speaker pointed out that the major problems were: (a) lack of confidence of the student; (b) inadequacy in vocabulary; and (c) use of poor logic. The written exercises start with grammar but also lead into discussions of proper word usage and logical thinking. The writing of the paragraph is the keystone of the course and success in this exercise represents great accomplishment on the part of the student.

Mathematics: Difficulties students encounter in mathematics stems from poor preparation in four basic arithmetical operations: addition, subtraction, multiplication, and division. Once these functions are mastered, the student's progress in mathematics should be successful and pleasant. It was suggested that students founded in basic preparation should and would find no more difficulty with calculus than with

algebra or geometry. It was also stated that mathematics must emphasize problem solving and that the problems should apply to areas in which the students are interested. Underscored was the fact that mathematics can be taught as an applied mathematics and still prepare the student for college level programs later on.

Physics: Motivation in becoming interested in physics can come about through applying the principles of physics to the problems of everyday living. This teaching method must utilize life-like student experiences which might differ greatly from the instructors normal life pattern. Physics courses are too repetitive, the speaker explained. He illustrated this point by citing the waste of time when the invention of the wheel was cited in almost every physics course a student ever took.

Chemistry: There are three basic issues concerning the content and approach to preparatory chemistry and biology courses: (a) the needs of the regular program which students will follow when enrolled in technical courses; (b) what the teaching faculty expect of the student in the regular technical program; and (c) any other critical aspect of the preparatory program. A student in the life science area must have the ability to organize related facts which eventually point to a conclusion. Without the ability to do "analytical thinking", a student will not succeed in life science programs. Mastery of the language of the course and the development of laboratory techniques were stressed by the speaker in teaching these students how to study chemistry and biology. Regarding the actual course content, the most important thing to consider is the foundation learning in these areas which will enable the student to progress rapidly in the regular technical courses.

Counseling: Counseling in a preparatory program is based on the concept that each student learn his potentialities as well as understand his weaknesses. The speaker said that each student must come to a realistic assessment of his own strengths and weaknesses. The counseling program is not intended to be one of simply heading, directing or dictating to the individual what he must do to qualify for admission. Students have a "right to fail" as much in this program as in any other. It was stressed that an effective counseling program embraced clear and unobstructed communication channels to student, the teaching faculty, the students' parents, and to the school's administration. Evaluation of effectiveness of a counseling program is the most difficult segment of the preparatory program to assess. It was noted that rich rewards might be found if time and money were made available for systematic research in this area.

Conference Wrap-Up: Dr. Walter Brooking, Program Specialist with the U. S. Office of Education and Chief Resource Person at the conference, summed up the conference proceedings at the final session. He

reviewed the essential elements of an opportunity or preparatory program. They were:

1. Administrative Committment: Administrative committment by the institution must be an uncompromising one. Dr. Brooking said, "If you are not going to do it right, don't even start!"

2. Staff Committment: A dedicated staff is one of the most essential parts of any program. Most necessary is an understanding of the program's objectives by all faculty and administrative personnel.

3. Student Selection: A student selected must have a desire to become part of the program because he sees in it a means to better himself.

4. Teacher Selection: Only master teachers should be utilized. Teachers should be selected who have a sympathetic understanding of the problems of these students and who are willing to work with individual students to help them to learn.

Programs of this nature should be started, said Dr. Brooking, because it is the only way we can make the best use of our human resources. Our human resources, the speaker said, will emerge through the test of time as the most valuable of all. Highly developed manpower to do the work is necessary to this nation for survival. If programs are started, he noted, each individual institution will face special problems. Monies are available, he added, through State Directors and that plans should be developed with the State and with the guide as soon as it is available.

CONFERENCE ON

METHODS OF INCREASING STUDENT ACHIEVEMENTS

IN

TECHNICAL PREPARATORY PROGRAMS

JULY 12, 13, 14, 1966

Alfred, New York

A G E N D A

Tuesday, July 12, 1966

2:00 P.M.	Registration and Occupancy of Rooms - Brookside Dormitory
5:00 P.M.	Bus to Lake Lodge leaves from Brookside and will return after evening presentation
5:15 P.M.	Social Hour at the Lodge
6:15 P.M.	Barbecue (Informal -- slacks, sport shirts)
7:30 P.M.	Introduction to the Conference - Dr. David H. Huntington President of the College
	Plan of the Conference - Dean Milo E. Van Hall
	Identifying the Student -- Selection for the Program - Dean Van Hall
	Introduction of Consultants
	Announcements

Wednesday, July 13, 1966

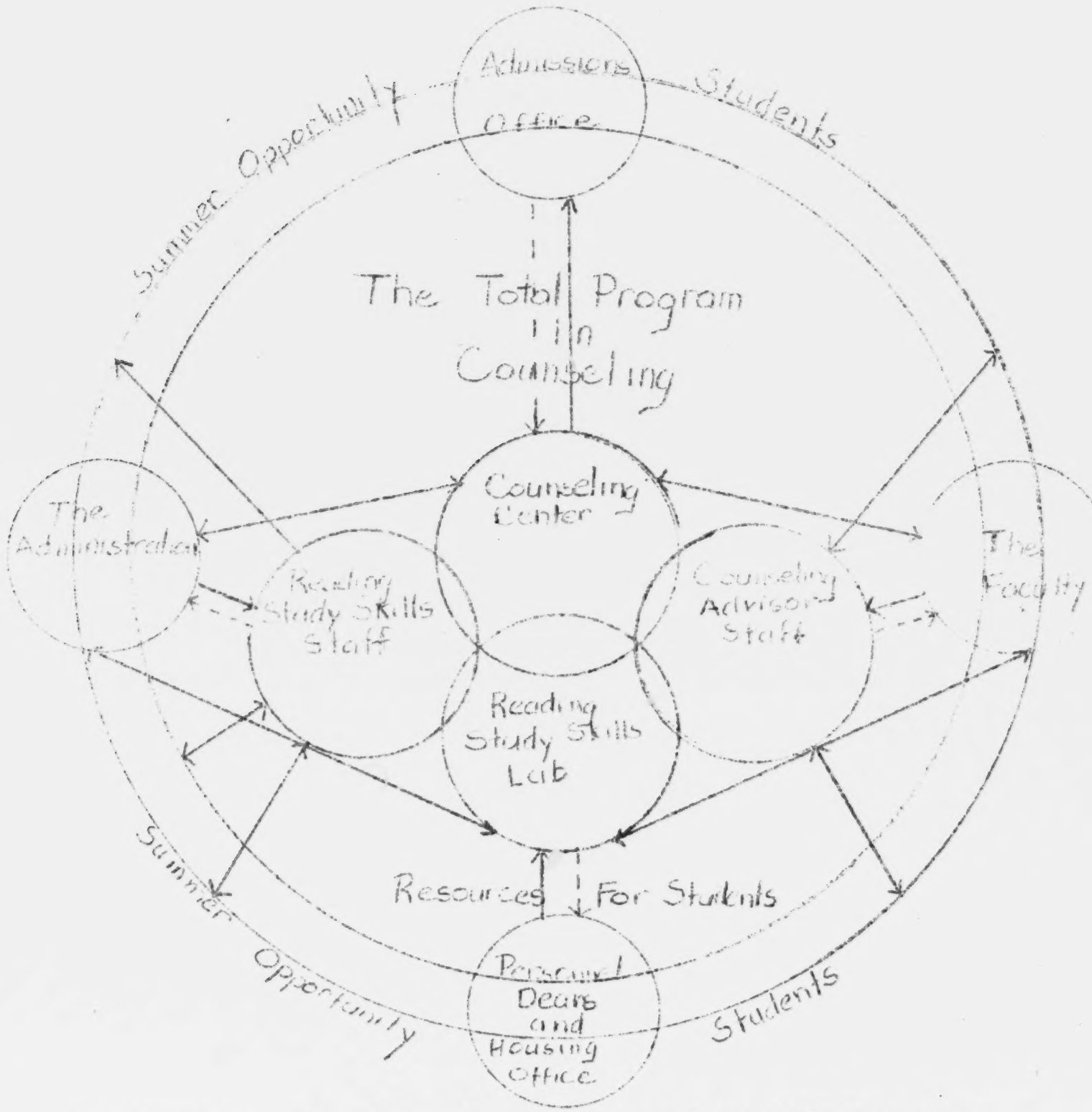
7:30 A.M.	Breakfast - Dining Hall
9:00 A.M.	Study Skills Course - Student Union Music Room - Mr. Deyo Montanye
10:00 A.M.	Coffee Break - Lounge
10:30 A.M.	Discussion Sessions on Study Skills Student Union
11:30 A.M.	General Question and Answer Period Student Union Music Room
12:00 A.M.	Lunch - Dining Hall
1:30 P.M.	Communication Skills Course - Student Union Music Room - Mr. Robert Wood
2:30 P.M.	Discussion Sessions on Communication Skills - Student Union
3:30 P.M.	General Question and Answer Period Student Union Music Room
6:00 P.M.	Dinner - Dining Hall
7:30 P.M.	Address: Dr. Walter J. Brooking Program Specialist Technical Occupations Office of Education Washington, D.C.

Wednesday, July 13, 1966

7:30 A.M.	Breakfast - Dining Hall
9:00 A.M.	Guidelines for the Administrator -- Problems, responsibilities, and solutions in setting up a program - Student Union Music Room
10:00 A.M.	Coffee Break - Lounge
10:15 A.M.	Physical and Life Science Courses - Student Union Music Room Mathematics and Physics - Mr. George Whitney Chemistry and Biology - Mr. Donald Jones
12:00 A.M.	Lunch - Dining Hall
1:15 P.M.	Discussion Sessions - Student Union 1:15 - Physics 1:40 - Mathematics 2:00 - Chemistry, Biology
2:30 P.M.	Counseling - Student Union Music Room - Mr. George Herrick
3:00 P.M.	Conference Wrap-Up - Dr. Walter Brooking
3:30 P.M.	Adjournment

A Schematic Drawing of the Summer Opportunity

Counseling Program at Alfred Tech*



Explanation: The Counseling Center and its staff including Reading and Study Skills personnel function as the "hub" of the total program by providing service to students and acting as a resource agency for other academic and non-academic departments of the colleges involved in the Summer Opportunity Program.

*Program stresses the communicative process as well as the importance of inter-personal and inter-staff relationships.